REMARKS

Claims 1-14 are all the claims pending in the application.

In summary, the Examiner maintains the same rejections set forth in the previous Office Action, and adds new arguments in response to the arguments set forth in the Amendment filed on October 12, 2004. Specifically, claims 1-6, 8-10, and 13 remain rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bluetooth (specification of the Bluetooth System, Vol. 1.0a, July 26, 1999). Claims 7, 11, 12, and 14 remain rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Bluetooth in view of Shona (U.S. Patent No. 5,799,085).

§ 103(a) Rejections (Bluetooth) - Claims 1-6, 8-10 and 13

The Examiner maintains the rejections of claims 1-6, 8-10, and 13 over Bluetooth as set forth in the previous Office Action. The Examiner also adds new arguments in the present Office Action.

In the previous Amendment, it was argued that Bluetooth does not teach or suggest at least, "sending a predetermined message according to a current operation mode to the other device and storing the predetermined message when an authentication-response message to the first authentication-request message is received", as recited in independent claim 1. In response, in the *Response to Arguments* section of the present Office Action, the Examiner alleges:

> As per claim 1, Applicant asserts "Bluetooth fail to teach or suggest that a predetermined message is sent according to a current operation mode and is stored when an authentication-response message to the first authentication-request message is received". However, the Examiner is interpreting, in Bluetooth, when the authentication is finished the link key must be created (Bluetooth: see for example, Part-C, Section 3.3.4, first sentence) and subsequently the link key message is sent and the response message is received (Bluetooth: see for example, Part-C, Section 3.3.4 Figure/Sequence 7). The selection of the link key, either LMP_unit_key or LMP_comb_key, is determined based on

> whether response message received matches the message being
> sent or not - or more specifically, based on which message being
> sent and which message being received (between LMP_unit_key
> message and LMP_comb_key message) (Bluetooth: see, for
> example, Part-C, Section 3.3.4, page 198, bullets 1-3). Thereby,
> Examiner notes the predetermined message being sent is
> interpreted as the "key selection message" as addressed above and
> this predetermined message "must" be stored (inherently) so that
> the decision rule for key selection can be applied to compare the
> message being sent against the message being received/responded
> (Bluetooth: see for example, Part-C, Section 3.3.4, Lines 9-13,
> page 198, bullets 1-3).

In response, Applicant maintains that Bluetooth does not teach or suggest at least the

above-quoted limitation at least based on the following reasons as well as those set forth in the

previous Amendment. First, Applicant submits that the Examiner has not established which

messages in the Bluetooth reference allegedly corresponds to the claimed 1) predetermined

message, 2) first authentication-request message, and 3) authentication-response message. That

is, the Examiner, in the *Response to Argument* Section, simply reiterates the teachings of the

Bluetooth reference at the portions cited by the Examiner, however, the particular portions of the

Bluetooth reference relied on by the Examiner (particularly Section 3.3.4, page 198) do not show

messages that correspond to at least the three claimed messages set forth above. In Section 3.3.4,

for example, only two signals are shown being sent between the verifier and claimant. Further,

even if, *arguendo*, the Bluetooth reference does show, in some other section, three different

signals being sent between a different verifier and claimant, there is no teaching or suggestion

that the particular signals that are disclosed correspond to the claimed predetermined message,

authentication-response message, and first authentication-request message, as recited in claim 1.

Yet further, the specific correlation between the claimed messages is not taught or suggested

anywhere in Bluetooth. That is, nowhere does the Bluetooth reference teach or suggest that a

predetermined message is stored <u>when an authentication-response message to the first</u>

<u>authentication request message is received</u>, for example, as described in claim 1.

Yet even further, in response to the last sentence in the Examiner's argument above,

Applicant submits that it is not inherent that a particular signal must be stored in order for a key

selection to be made (see Section 3.3.4 of the Bluetooth reference). That is, in order to

determine which key will be the link key (see top of page 198 of Bluetooth reference), a value

associated with a received key can be retained, and that value could be used in determining a key

to select as the "link key". However, it does not necessarily follow that a "key selection

message" (term used by Examiner) would have to be stored in order to compare

received/response messages.

Therefore, at least based on the foregoing as well as the arguments set forth in the

previous Amendment, Applicant maintains that independent claim 1 is patentably distinguishable

over the Bluetooth reference.

With respect to dependent claims 2-6, 8-10, and 13, Applicant submits that these claims

are patentable at least by virtue of their indirect or direct dependency from independent claim 1.

§103(a) Rejections (Bluetooth/Shona) - Claims 7, 11, 12 and 14

In the previous Amendment, it was argued that the applied references, either alone or in

combination, do not teach or suggest at least, "(b) after performing the step (a) and prior to

performing the step(c), checking an authentication condition of the present device when a

predetermined message from the other device is received; (c) after performing the step (b),

storing the predetermined message and sending a second authentication-request message to the

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other device when the result of checking indicates that a mutual authentication is required," as

recited in claim 7. In response, the Examiner alleges:

> As per claim 7, Applicant remarks "Shona fails to teach after performing the step (a) and prior to performing the step (c), checking of an authentication condition of the present device is performed". Examiner notes "checking of an authentication condition" can be interpreted into two elements: (I) when to check the authentication condition and (II) how to determine the authentication condition. Bluetooth is relied upon for providing a mechanism regarding (I) when to check the authentication condition - i.e., after performing the step (a) sending a response message corresponding to a first authentication request message when the first authentication-request message from another device that wants to establish a connection is received (Bluetooth: see for example, PART C, Section 3.2 Authentication and Section 3.3.1 & Section 3.3.2, Sequence 3/4) (Bluetooth: see, for example, Part-C, Section 3.3, Figure/Sequence 3/4) and prior to performing the step (c) storing the predetermined message and sending a second authentication-request message to the other device when the result of checking indicates that a mutual authentication is required (Bluetooth: see, for example, PART B, Section 14.2.2.2 Authentication, second paragraph, page 154 & Figure 14.11 and PART B, Section 14.4, Authentication, forth paragraph, page 170 & PART C, Section 3.3, Sequence 4. Regarding (II) how to determine the authentication condition, Bluetooth only discloses Link Manager coordinates the indicated authentication preference (i.e., checking of an authentication condition - mutual authentication required or not) (Bluetooth: see, for example, Part-B, Section 14.4, third paragraph, page 170). However, Bluetooth does not disclose expressly how to determine the authentication condition. In need of this, Shona is merely relied upon that the indication/determination of mutual authentication (instead of unilateral authentication) required can be simply based on a flag setting = "10" (Shona, see, for example, col. 5, lines 61-67). ·

In response, as similarly set forth above with respect to claim 1, Applicant submits that

the Examiner has not identified and neither of the references show what alleged messages

correspond to the claimed predetermined message, second authentication-request message, and

response message, as set forth in claim 7. That is, the Examiner cannot make a plausible

argument that the above-quoted operations of the present invention, as recited in claim 7, are satisfied by the applied references because the Examiner has not identified the particular messages that allegedly correspond to the messages claimed in claim 7. Therefore, at least based on the foregoing as well as the arguments set forth in the previous Amendment, Applicant maintains that Shona and Bluetooth, either alone or in combination, do not teach or suggest the above-quoted limitation of claim 7. With respect to dependent claims 11 and 14, Applicant submits that these claims are patentable at least by virtue of their indirect dependency from independent claim 1. Shona does not make up for the deficiencies of Bluetooth.

With respect to independent claim 12, in the previous Amendment, it was argued that neither Bluetooth nor Shona, either alone or in combination, teaches or suggests, "determining whether an authentication procedure for establishing a connection between devices that want to communicate data is performed as a unilateral authentication procedure or as a mutual authentication procedure, according to an authentication condition which enables receiving an authentication request in the two devices that can communicate data; and performing the authentication procedure," as recited in claim 12.
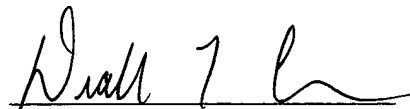
In response, the Examiner argues on page 4 of the Office Action that, "Shona is merely relied upon that the indication/determination of mutual authentication (instead of unilateral authentication) required can be simply based on a flag setting = "10" (Shona: see for example, Col. 5, lines 61-67)." In response, Applicant submits that Shona does not merely teach indication/determination of mutual authentication (instead of unilateral authentication), but only teaches that a determination of whether a next process should occur after mutual authentication operation is performed. That is, the section of Shona relied on by the Examiner is only directed

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to the mutual authentication processing procedure of a third embodiment (see col. 4, lines 65-67), but it is not directed to <u>determining whether an authentication procedure for establishing a connection between devices ... is performed as a unilateral authentication procedure or as a mutual authentication procedure</u>, as described in claim 12. Therefore, at least based on the foregoing as well as the arguments set forth in the previous Amendment, Applicant maintains that independent claim 12 is patentably distinguishable over the applied references, either alone or in combination.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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Date: April 27, 2005

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